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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/449,649 | 11/30/1999 | JOSEPH J. NAJDA | NAJDA-2-8-1 | 6532 |

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| EXAMINER |
|---|
| VOLPER, THOMAS E |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2697 | |

DATE MAILED: 01/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/449,649 | NAJDA ET AL. | |
| | Examiner | Art Unit | |
| | Thomas Volper | 2697 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 6-13 and 15-22* is/are rejected.

7)☒ Claim(s) *5, 14 and 23* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 April 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☒ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

### *Oath/Declaration*

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

- The declaration recites "first and sole inventor," however, three inventors have signed the declaration. Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 6-8, 10-13, 15-17, and 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al. in view of Al-Salameh and Huggins et al.

- Regarding claims 1, 10 and 19, Chan discloses an implementation of ATM traffic over a SONET unidirectional path switched ring (UPSR) (col. 5, lines 26-32). According to Chan, UPSRs carry traffic in two rings, a working ring and a protection ring, and in two different directions. A UPSR uses a path selector to compare the two signals that terminate at a node of

the two rings, and to select which one to drop (col. 2, lines 43-48). All of the nodes UPSR have access to all of the signals on both rings. Chan does not disclose a first multiplexer or an asynchronous feeder multiplexer that replaces components of the signals on the first path with copies running in an opposite direction on the second path. Chan also does not disclose a central office. Al-Salameh discloses a switch matrix (201 of Fig. 2) and add/drop multiplexers (210 and 211 of Fig. 2). The switch matrix acts like the first multiplexer of the present invention by switching signals on the rings to the add/drop multiplexers. The add/drop multiplexers selectively drop signals to terminal equipment (216 of Fig. 2) via optical splitters (212 and 215 of Fig. 2) (col. 5, lines 34-39). The terminal equipment may be an ATM switch (col. 5, lines 39-43). Al-Salameh discloses that the operation of the switch matrix can cause a copy of a signal normally destined for output in one direction, i.e. working ring, to be outputted in the opposite direction, i.e. on the protection ring (col. 8, lines 22-28). Huggins discloses a central office (16 of Fig. 1) connected to an optical ring. The central office can statistically multiplex multiple data signals from various host digital terminals (38 of Fig. 1) into a single data signal for transmission onto the ring (col. 2, lines 60-64). At the time the invention was made it would have been obvious to a person of ordinary skill in the art to use the switch matrix and add/drop multiplexer configuration with the UPSR of Chan. It also would have been obvious to incorporate the switch matrix and add/drop multiplexer elements into the central office of Huggins whereby the central office would send the ATM traffic in duplicate signals in opposite directions around the ring. One of ordinary skill in the art would have been motivated to use the switch matrix and a/d multiplexer in order to switch to a protection ring in the event of a ring cut or failure, or to have a choice of selecting a signal that has the best quality. One would be motivated to combine these

elements into a central office in order to have one node on the ring that controls the flow of traffic and signals the other nodes in the event of a failure.

- Regarding claims 2, 11 and 20, see above rejection of claims 1, 10 and 19. Chan discloses that UPSRs use a path selector for comparing two signals and selecting one. It is obvious that this path selector must employ some logic function to determine which signal to choose. It is also obvious that it would choose the signal with the best quality. One of ordinary skill in the art would be motivated to set this path selector to choose the best available signal in order to avoid transmitting a signal to terminating equipment that included an error due to failure of a node on the ring.

- Regarding claims 3, 12 and 21, see above rejection of claims 1, 10 and 19. Also, Al-Salameh discloses that switching to a protection channel is done in response to detection of a loss of signal (col. 8, lines 15-20).

- Regarding claims 4, 13 and 22, see above rejection of claims 2, 11 and 20.

- Regarding claims 6 and 15, see above rejection of claims 1, 10 and 19.

- Regarding claims 7 and 16, see above rejection of claims 1, 10 and 19. Also, Chan discloses that the basic data transfer vehicle of SONET is STS-1 (col. 4, lines 19-20).

- Regarding claims 8 and 17, see above rejection of claims 1, 10 and 19. Also, it is well known in the art to use metallic channels to conduct electrical signals. At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to use metallic channels to form the ring in the teaching of Chan et al. in view of Al-Salameh and Huggins et al. One of ordinary skill in the art would have been motivated to do this in the case that optical technology was not available.

4. Claims 9 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al. in view of Al-Salameh and Huggins et al. as applied to claims 1-4, 6-8, 10-13, 15-17, and 19-22 above, and further in view of Au.

- Regarding claims 9 and 18, Au discloses a system of add/drop multiplexers connected together in a ring formation. Au discloses that one of the traffic formats that can be handled by this system is DS-3 (col. 3, lines 7-10). At the time the invention was made it would have been obvious to a person of ordinary skill in the art to use the DS-3 format to transport the signals in the teaching of Chan et al. in view of Al-Salameh and Huggins et al. One of ordinary skill in the art would have been motivated to do this to provide high speed service through the ring.

***Allowable Subject Matter***

5. Claims 5, 14 and 23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

- Regarding claims 5, 14 and 23, the teaching provided by Chan et al. in view of Al-Salameh and Huggins et al. fails to disclose choosing components of signals received from opposite directions.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Tokura et al. (US 5,469,428) Loop-Back System in a Dual Ring Network
- Uphadya et al. (US 5,949,755) ATM Emulated Path Protection
- Sekine et al. (US Publication 2002/0075798) ATM Switching Unit

7. Any inquiry concerning this communication, or earlier communications from the examiner should be directed to Thomas Volper whose telephone number is 703-305-8405 and fax number is 703-746-9467. The examiner can normally be reached between 9:00am and 6:30pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo, can be reached at 703-305-4798. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4750.

tev

January 8, 2003

RICKY NGO
PRIMARY EXAMINER